BIOLOGIZING CONTROL SYSTEMS

Paul Wang
Duke University
Durham, NC
ppw@ee.duke.edu

Abstract

One of the most important performance metrics for a control system is the reliability. To accomplish this objective, some intelligent controller must be developed. Relevant theory on this line has been von Newmann's cellular automata theory.

However, von Neumann's theory of cellular automata is not general enough to realize the 'biologizing" of control systems. Furthermore, the non-autonomous responses must be studied in order to realizing the truly reliable system via self-organizing schemes. This paper presents both new features.